**Understanding the Times**

**Icons of Evolution**

1. **Haeckel’s Drawings**
   1. Artistic drawings of vertebrate embryos
      1. Fraudulent drawings
      2. Omits the earliest stages of development
      3. Highlights stages and classes that look the most similar
      4. Omits the classes that don’t look similar
   2. Click here to enter text.: distortions of pro-evolution evidence found in textbooks
2. **Galapagos Finches**
   1. Finch beaks change in size and shape
      1. The changes are temporary
      2. They oscillate back and forth
   2. Click here to enter text.: small changes with the species of a gene pool
   3. Click here to enter text.: the origin of fundamentally new species and plants
3. **Four-winged fruit flies**
   1. Anomaly: fruit fly with two sets of wings
      1. No muscles attached to the wings
      2. Hopeless cripple
      3. Can only survive in the laboratory
      4. Would be “selected out” by natural selection
      5. Other fruit flies would not mate with them
   2. Click here to enter text.: randomly occurring mutations provide raw material needed for evolution
4. **Antibiotic Resistance**
   1. Bacteria strains resistant to antibiotics
      1. When the parent is re-introduced, the resistant bacteria disappear
      2. The resistant bacteria is crippled
   2. Click here to enter text.: how well mutant bacteria survive when the antibiotic is removed
5. **Homology**
   1. Homology: similarity in Click here to enter text. between different organisms
      1. Similarity shows all living things have common ancestry
      2. Complex life descended from simple life
   2. Darwin thought that similar animals shared similar genes
   3. Homologous structures can be produced by different genes
      1. The body of the fruit fly
      2. The body of the wasp
   4. Homologous structures can follow different patterns of development
      1. Shark gut—develops in upper cells of embryonic cavity
      2. Lamprey gut—develops in lower cells of embryonic cavity
      3. Frog gut—develops in upper and lower cells of embryonic cavity
6. **Cambrian Explosion**
   1. Biology textbooks
      1. Depict the progress of life from simple to complex
      2. Over hundreds of millions of years
   2. Cambrian Explosion: the Click here to enter text. geological appearance of most major groups of animals
      1. Animals appeared with major differences
      2. No fossil evidence that they came from a common ancestor
   3. Chengjiang’s fossils
      1. Complex life at the Click here to enter text.
      2. Sudden appearance
      3. Pre-Cambrian fossils not ancestors
   4. Click here to enter text. genes turned on after development